Improvement for Arrayed Electron Optical Processor of 7 May 2025
Eliminating Need for Overhead Light Sources for Each Electron Trap

26 September 2025
Simon Edwards
Research Acceleration Initiative

Introduction

The publication of 7 May 2025 calls for write operations to be performed by a series of discrete LASERs or LEDs. A novel technique called Phase Position Anticipation and Control can be used to allow the read LASER to be used to used a write LASER, enabling a greater logic density.

Abstract

An LED which would be used to emit light with a polarity with which parallel with the processing substrate as described in 7 May 2025 (ibid.) could be made to emit light with a perpendicular polarity at particular frequencies and initial phase conditions which allow for a wave with parallel motion but perpendicular polarity relative to the electron trap array to achieve switching of axis spin direction from North-South to East-West or vice versa with a single unit for each eight-electron series.

If the wave strikes at the rear of the electron trap (which can be thought of as the cup lining a “hole” in a game of golf, the spin direction is switched in one way and if it strikes the front lip of the trap nearest to the light source, it flips the spin the other way.

As before, the state of all eight of the electrons can be assessed by emitting non-interacting light with polarity which is parallel with the substrate and measuring subtle changes to its angular momentum caused by the magnetic influence of the North-South-spinning electrons.

Additional Applications

This approach to computing could also be used to support data storage as the spin states would remain stable until purposefully changed.

Conclusion

This would constitute both an optical processor and quantum electronic spin-based data storage mechanism. Although this system is not purely optical as it relies upon electrons for certain components of its operation, the electrons involved are static in their position and therefore do not generate heat. Only their spin is modified in order to change a bit value. Such a system would boast impressive read/write speeds and could be built using existing light-emitting and light-detecting mechanisms.